



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,228	05/22/2006	Keiji Ishino	291279US3PCT	1828
22850 7590 12/19/2011 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER CLINE JR, JAMES LAMAR				
ART UNIT 3677		PAPER NUMBER		
NOTIFICATION DATE 12/19/2011		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

Office Action Summary**Application No.**

10/580,228

Applicant(s)

ISHINO ET AL.

Examiner

JAMES CLINE JR

Art Unit

3677

Period for Reply -- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/8/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1, 3-5 and 7-14 is/are pending in the application.
- 5a) Of the above claim(s) 9, 10, 12 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1, 3-5, 7, 8, 11, 13, and 14 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 5/22/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-806)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

Status of Claims

- Claims 2, 6, and 15-23 are canceled.
- Claims 9, 10, and 12 are withdrawn.
- Claim 1 was amended.
- Claims 1, 3-5, and 7-14 are pending.

Claim Objections

1. Claim 4 is objected to because of the following informalities: typographical mistakes. Specifically, the following recitation appears to include a mistake: “the slit extends from the base end of the tubular projecting portion to the one surface of the first member.” For the purposes of this Office action, the claim has been treated on the merits as if it recited: “the slit extends from the leading end of the tubular projecting portion to the one surface of the first member.”
2. Claim 11 is objected to because of the following informalities: grammatical mistakes. Specifically, the following recitation is grammatically improper and confusing: “the flange portion is located in an other surface side of the second member located in an opposite side of one surface of the second member facing to the one surface of the first member, and the second member is whereby sandwiched” For the purposes of this Office action, the claim has been treated on the merits as if it recited: “the flange portion is located on another surface side of the second member located on an opposite side of one surface of the second member facing the one surface of the first member, and the second member is thereby sandwiched” Appropriate correction is required.
3. Claim 13 is objected to because of the following informalities: grammatical mistakes. Specifically, the following recitation is grammatically improper and confusing: “the leading end of the tubular projecting portion projects to an outward of the second member from the other

surface of the second member, an outer diameter in the projecting portion is larger” For the purposes of this Office action, the claim has been treated on the merits as if it recited: “the leading end of the tubular projecting portion projects outward of the second member from the other surface of the second member, an outer diameter of the projecting portion is larger”

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Stairs, Jr. (U.S. Patent No. 4,924,533).**

6. Regarding claim 1, Stairs discloses a similar fastening structure (Figs. 2, 4-7) in which a first member (38) and a second member (10) are mutually connected by a fastening member (32) including a threaded portion (34), wherein:

- the first member is formed with a tubular projecting portion (Fig. 4) which raises from one surface (Fig. 4) of the first member toward the second member (Fig. 4) and inwardly defines a hollow portion (Fig. 4);
- the second member is formed with a hole (19) in which the tubular projecting portion is inserted (Fig. 4);
- the threaded portion of the fastening member includes an outer diameter (Fig. 4) larger than a minimum inside diameter of the hollow portion (C3 / L23-30; Fig. 4, 7) of the tubular

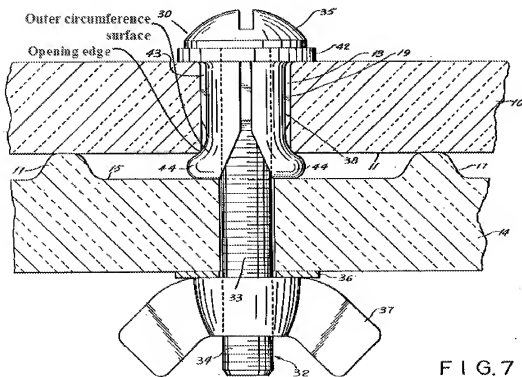
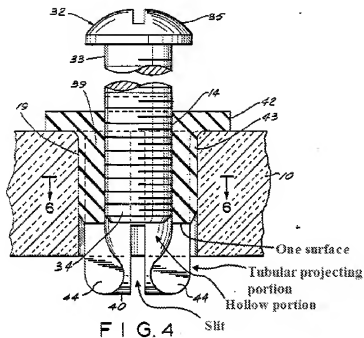
projecting portion and smaller than a hole diameter of the second member (C3 / L23-30; Figs. 4, 7);

- the threaded portion is screwed into the hollow portion of the tubular projecting portion inserted into the hole of the second member (C3 / L23-30; Figs. 4, 7);
- the tubular projecting portion is formed with a radially expanded portion (44; C3 / L23-30; Fig. 7) by expanding the tubular projecting portion radially and outwardly by screwing the threaded portion (*The preceding process limitation has not been given patentable weight. See explanation below.*), the radially expanded portion being formed by a leading end (40) of the tubular projecting portion projecting from the hole of the second member (Figs. 4, 7) being deformed (*The preceding process limitation has not been given patentable weight.*);
- the first member and the second member are mutually fastened in a state where an outer circumference surface (Fig. 7) of the radially expanded portion abuts on a peripheral wall (11) of the hole of the second member to cover an opening edge portion (Fig. 7) of the hole of the second member (Fig. 7), as the threaded portion is screwed into the hollow portion of the tubular projecting portion (*The preceding process limitation has not been given patentable weight.*);

Examiner notes that claim 1 is a product-by-process claim because of the process limitations noted above. It has been held that “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777

Art Unit: 3677

F.2d 695, 698, 227 USPQ 964, 966. Consequently, the process limitations of claim 1 have not been given patentable weight.



7. Regarding claim 3, Stairs discloses a similar fastening structure, wherein at least one slit (Fig. 4) is formed from the leading end of the tubular projecting portion (Fig. 4) toward the base end thereof (Fig. 4).

8. Regarding claim 4, Stairs discloses a similar fastening structure, wherein the at least one slit extends from the leading end of the tubular projecting portion (Fig. 4) to the one surface of the first member (Fig. 4).

9. **Claims 1, 5, 7, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson (U.S. Patent No. 2,406,157).**

10. Regarding claim 1, Nelson discloses a similar fastening structure (Figs. 1-3) in which a first member (1) and a second member (4) are mutually connected by a fastening member (10) including a threaded portion (Fig. 2), wherein:

- the first member is formed with a tubular projecting portion (Fig. 2) which raises from one surface (6) of the first member toward the second member (Figs. 1, 2) and inwardly defines a hollow portion (Fig. 2);
- the second member is formed with a hole (2) in which the tubular projecting portion is inserted (Figs. 1, 2);
- the threaded portion of the fastening member includes an outer diameter (Fig. 2) larger than a minimum inside diameter of the hollow portion (C2 / L35-52; Figs. 1, 2) of the tubular projecting portion and smaller than a hole diameter of the second member (C2 / L35-52; Figs. 1, 2);
- the threaded portion is screwed into the hollow portion of the tubular projecting portion inserted into the hole of the second member (Figs. 1, 2);

- the tubular projecting portion is formed with a radially expanded portion (14) by expanding the tubular projecting portion radially and outwardly by screwing the threaded portion (*The preceding process limitation has not been given patentable weight.*), the radially expanded portion being formed by a leading end (Fig. 2) of the tubular projecting portion projecting from the hole of the second member (Fig. 2) being deformed (*The preceding process limitation has not been given patentable weight.*);
- the first member and the second member are mutually fastened in a state where an outer circumference surface (Fig. 2) of the radially expanded portion abuts on a peripheral wall (Fig. 2) of the hole of the second member to cover an opening edge portion (Fig. 2) of the hole of the second member (Fig. 2), as the threaded portion is screwed into the hollow portion of the tubular projecting portion (*The preceding process limitation has not been given patentable weight.*);
- wherein the hollow portion defined by the tubular projecting portion is a hollow portion whose both ends are open (Figs. 1, 2), penetrating the first member in its through-thickness direction (Figs. 1, 2); and
- wherein a base end portion (Fig. 2) of the tubular projecting portion of the first member is formed with a recess portion (Fig. 2) for controlling an increase of torque required for screwing the fastening member (C2 / L35-45; Fig. 2).

Fig. 1

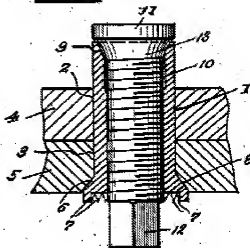
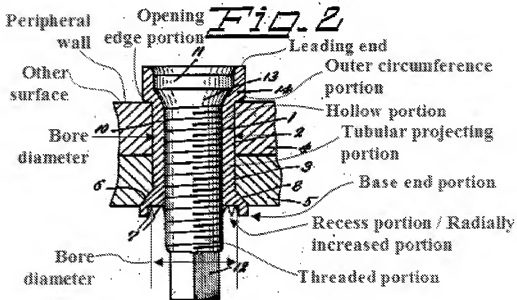


Fig. 2



11. Regarding claim 5, Nelson discloses a similar fastening structure, wherein the radially expanded portion of the first member is pressed onto the peripheral wall of the hole of the second member (Fig. 2) without remaining a space between the radially expanded portion and the peripheral wall of the hole of the second member (Fig. 2).

12. Regarding claim 7, Nelson discloses a similar fastening structure, wherein the recess portion is defined by a radially increased portion (Fig. 2) of an inside diameter of the tubular projecting portion (Fig. 2).
13. Regarding claim 8, Nelson discloses a similar fastening structure, wherein the radially increased portion includes a uniform bore diameter (Fig. 2) in an axis line direction of the tubular projecting portion (Fig. 2)
14. Regarding claim 11, Nelson discloses a similar fastening structure, wherein the fastening member includes a flange portion (11) at one end of the threaded portion (Figs. 1, 2) the threaded portion is screwed into the tubular projecting portion from (Fig. 2) from a leading end (Fig. 2) of the tubular projecting portion such that the flange portion is located on another surface side (Fig. 2) of the second member located on an opposite side of one surface (Fig. 2) of the second member facing the one surface of the first member (Fig. 2), and the second member is thereby sandwiched between the flange portion of the fastening member and the one surface of the first member (Fig. 2)

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. **Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (U.S. Patent No. 2,406,157) in view of Payne (U.S. Patent No. 2,076,041).**

17. Regarding claims 13 and 14, Nelson discloses a similar fastening structure, wherein the leading end of the tubular projecting portion projects outward of the second member (Fig. 2) from the other surface of the second member (Fig. 2), an outer diameter of the projecting portion is larger than a bore diameter of the hole of the second member (Fig. 2).

18. However, Nelson fails to disclose the limitations that:

- the flange portion is formed with a concave portion for accepting the projecting portion of the tubular projecting portion (claim 13); and
- a closed space is formed by the concave portion of the flange portion and the other surface of the second member on which the flange portion abuts (claim 14).

19. Payne teaches a similar fastening structure (Figs. 1, 2) including a fastening member (6, 7) having a flange portion (9) at one end of a threaded portion (Figs. 1, 2), wherein the flange portion is formed with a concave portion (13) for accepting a projecting portion of a first member (15); and wherein a closed space (13; Fig. 1) is formed by the concave portion of the flange portion and a proximate surface of a second member (14) on which the flange portion abuts (Fig. 1), for the purposes of eliminating any gap between the flange portion and the second member and providing a space to receive the projecting portion that is deformed by the fastening process (C1 / L42-51; Figs. 1, 2).

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fastening structure of Nelson such that the flange portion is formed with a concave portion for accepting the projecting portion of the tubular projecting portion; and a closed space is formed by the concave portion of the flange portion and the other surface of the second member on which the flange portion abuts, as taught by Payne, for the purposes of

eliminating any gap between the flange portion and the second member and providing a space to receive a projecting portion that is deformed by the fastening process.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Cline whose telephone number is 571-270-3069. The examiner can normally be reached on Monday-Friday, 7:30-5:00, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on 571-272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor Batson/
Supervisory Patent Examiner, Art Unit 3677

/J. L. C./
Examiner, Art Unit 3677